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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/665,569	09/22/2003	Rolf Dittmann	033275-409	6153

21839 7590 06/15/2004

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EXAMINER	
KIM, TAE JUN	

ART UNIT	PAPER NUMBER
3746	

DATE MAILED: 06/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/665,569	DITTMANN ET AL.	
	Examiner	Art Unit	
	Ted Kim	3746	

-- The MAILING DATE of this communication appears on th cover sheet with the correspondenc address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-5 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-5 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 08 April 2004 is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☒ Certified copies of the priority documents have been received in Application No. 09/973,868.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 3/30/04 & 9/22/03.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Priority

1. An application in which the benefits of an earlier application are desired must contain a specific reference to the prior application(s) in the first sentence of the specification or in an application data sheet (37 CFR 1.78(a)(2) and (a)(5)). The status of the earlier application should be updated to reflect the status as abandoned.

Title

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Specification

3. The incorporation of essential material in the specification by reference to a foreign application or patent, or to a publication is improper on page 14, paragraph [0051]. Applicant is required to amend the disclosure to include the material incorporated by reference or to refer to a US patent in the patent family if possible. The amendment must be accompanied by an affidavit or declaration executed by the applicant, or a practitioner representing the applicant, stating that the amendatory material consists of the same material incorporated by reference in the referencing application. See *In re Hawkins*, 486 F.2d 569, 179 USPQ 157 (CCPA 1973); *In re Hawkins*, 486 F.2d 579, 179 USPQ 163 (CCPA 1973); and *In re Hawkins*, 486 F.2d 577, 179 USPQ 167 (CCPA 1973).

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Joos et al (5,664,943). Joos et al teach a process for the operation of a burner, comprising the steps of: providing a burner 1 for a heat generator 10, the burner including a swirl generator 1 for receiving and swirling at least part of a combustion air flow, the swirl generator defining a central burner axis and having an internal space, the swirl generator configured and arranged for tangentially introducing the combustion air flow into the internal space, the internal space defining a cross sectional throughflow area; providing means for the introduction of at least one fuel 4 or 6 or 9 into the combustion air flow, means at a downstream end of the swirl generator for forming an abrupt widening of the cross sectional throughflow area at the junction of 1 and 10, and an injection device (35, 37, Fig. 14) or (35, 40, Fig. 15) or 41, 42 (Fig. 16) configured and arranged for the introduction of an axial central air flow along the central burner axis, the injection device including an adjustable element configured and arranged for altering a throughflow cross section of the injection device and for the control of the mass flow of the axial central air flow (35, 37, Fig. 14) or (35, 40, Fig. 15) or 41, 42 (Fig. 16); throttling of the air flow as a function of load is explicitly taught (col. 3, lines 13-18; col. 5, lines 53-55). As for strongly throttling the axial central flow at low burner load; and weakly throttling or no

throttling of the central flow at high burner load, this is the inherent operative condition, i.e. for low load, there is low fuel flow and thus low airflow required which corresponds to the strongly throttled condition; at high load, more air and fuel is required and thus less throttling. The inherency of the throttling of the airflow at these conditions is evidenced by Xiong (5,292,244) of the IDS, who also uses a throttle for the airflow as a function of load (col. 4, lines 54+). Alternatively, evidence is provided by Fig. 3 of Ohyama et al (5,533,329), who shows that as the fuel increases (i.e. as the load increases) the airflow also increases.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Joos et al (5,664,943) in view of either Xiong (5,292,244) or Ohyama et al (5,533,329). Joos et al teach a process for the operation of a burner, comprising the steps of: providing a burner 1 for a heat generator 10, the burner including a swirl generator 1 for receiving and swirling at least part of a combustion air flow, the swirl generator defining a central burner axis and having an internal space, the swirl generator configured and arranged for tangentially introducing the combustion air flow into the internal space, the internal space

defining a cross sectional throughflow area; providing means for the introduction of at least one fuel 4 or 6 or 9 into the combustion air flow, means at a downstream end of the swirl generator for forming an abrupt widening of the cross sectional throughflow area at the junction of 1 and 10, and an injection device (35, 37, Fig. 14) or (35, 40, Fig. 15) or 41, 42 (Fig. 16) configured and arranged for the introduction of an axial central air flow along the central burner axis, the injection device including an adjustable element configured and arranged for altering a throughflow cross section of the injection device and for the control of the mass flow of the axial central air flow (35, 37, Fig. 14) or (35, 40, Fig. 15) or 41, 42 (Fig. 16); throttling of the air flow as a function of load is explicitly taught (col. 3, lines 13-18; col. 5, lines 53-55). As for strongly throttling the axial central flow at low burner load; and weakly throttling or no throttling of the central flow at high burner load, this is the inherent operative condition, i.e. for low load, there is low fuel flow and thus low airflow required which corresponds to the strongly throttled condition; at high load, more air and fuel is required and thus less throttling. While the throttling of the airflow for the load is regarded as inherent, in order to obviate any doubt Xiong (5,292,244) of the IDS, who also uses a throttle for the airflow as a function of load (col. 4, lines 54+) is cited. Alternatively, evidence is provided by Fig. 3 of Ohyama et al (5,533,329), who shows that as the fuel increases (i.e. as the load increases) the airflow also increases. It would have been obvious to one of ordinary skill in the art to employ more throttling of the airflow at low loads, as the conventional operating practice in the art.

8. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Joos et al (5,664,943) in view of Ohyama et al (5,533,329) and optionally Xiong (5,292,244). Joos as detailed above, teaches various aspects of the claimed invention including operating a plurality of burners (col. 1, lines 12+; col. 5, lines 43-48) in a gas turbine plant, but does not teach how the load is controlled. Ohyama et al teach determining the load based on the fuel mass flow measurement signal 25-29 (see col. 4, lines 28-54), operating the burner in a combustion chamber of a gas turbine plant and determining burner load based on the fuel of the gas turbine plant, measuring a material temperature of the burner (col. 6, lines 25-37) and controlling the airflow, measuring the combustion pulsations pressure 301, 303 (col. 10, lines 56+) and controlling the airflow thereby. Benefits include reducing NOx emissions (col. 3, lines 15-26) and better handling pressure fluctuations in the combustor. It would have been obvious to one of ordinary skill in the art to employ the control parameters of Ohyama et al to control the load and/or central airflow of Joos et al, to exert enhanced control over the flows and/or to reduce emissions.

9. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Joos et al (5,664,943) in view of either Xiong (5,292,244) or Ohyama et al (5,533,329), as applied above, and further in view of Farkas et al (5,661,967). Joos et al teach various aspects of the invention but do not teach determining the load based on a setting of the front guide vane of the gas turbine plant. Farkas et al teach determining the load based on a setting of a front guide vane 17 of the gas turbine (col. 2, lines 39+). It would have been obvious

to one of ordinary skill in the art to determine the load based on a setting of the front guide vane of the gas turbine plant, in order to exert enhanced control over the airflow and/or load.

10. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Joos et al (5,664,943) in view of either Xiong (5,292,244) or Ohyama et al (5,533,329), as applied above, and further in view of Hepner et al (6,216,437). Joos et al teach various aspects of the invention but do not teach determining the load based on the generator power. Hepner et al teach determining the load based on the generator power (P_G) of the gas turbine. It would have been obvious to one of ordinary skill in the art to determine the load based on a setting of the generator power, in order to exert enhanced power regulation over the power output.

Contact Information

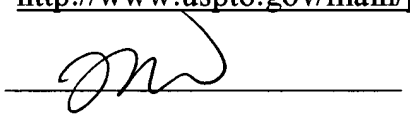
Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Ted Kim whose telephone number is 703-308-2631. The Examiner can be reached on regular business hours before 5:00 pm, Monday to Thursday and every other Friday.

The fax numbers for the organization where this application is assigned are 703-872-9306 for Regular faxes and 703-872-9306 for After Final faxes.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Justine Yu, can be reached on 703-308-2675.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist of Technology Center 3700, whose telephone number is 703-308-0861.

General inquiries can also be directed to Technology Center Customer Service Office at 703-306-5648 or the Patents Assistance Center whose telephone number is 800-786-9199. Furthermore, a variety of online resources are available at http://www.uspto.gov/main/patents.htm



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